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ARMY SERVICE FORCES
UNITED STATES ENGINEER OFFICE
MANHATTAN DISTRICT
OAK RIDGE, TENNESSEE

IN REPLY
REFER TO EIDMF-1-b
MD 070

RHTG 25 May 1945
41,172
BOX # 26
283

Subject: Report on Project S-50

MEMORANDUM to Lt. Col. Sylvester M. Evans

1. Transmitted herewith are two copies of a report concerning the background and development of the liquid thermal diffusion process, as well as a survey of possible invention and a list of published art.
2. It is believed that the development work which resulted in the present commercial plant at S-50 is best divided into three phases: (1) The original concept or low temperature-low pressure process, (2) The present commercial type plant or high temperature (up to critical)-high pressure process and (3) A process presently being developed operating at super-critical temperatures and extremely high pressure.
3. Pursuant to discussions between Ens. Hughes and myself, it is believed that the broad features of the process should be covered in a basic case with supplementary cases for individual improvement inventions pertaining thereto. A Disclosure is presently being prepared on the basic case and it is presently contemplated that approximately 12 or 15 Abstracts of supplementary cases will be prepared, of which 5 have now been transmitted to the Central Office.
4. It would appear necessary, upon completion of the basic Disclosure and the Abstracts of the supplementary cases, that contact be made with the principals in this work and particularly Dr. Phillip H. Abelson to whom the majority of the cases are attributable. The basic Disclosure should be thoroughly checked for technical accuracy and further information obtained for the preparation of Disclosures and Records of Invention on the abstracted subject matter.

DECLASSIFICATION AUTHORIZED
MALCOLM THEISEN, EAS
Name (ADD) - Organization

9-18-95
Date

A. B. McClelland, Jr.
A. B. McClelland, Jr.,
1st Lt., USMCR.

DECLASSIFICATION RECOMMENDED
GABRIEL MARCIANTE, ORG CLASSIFICATION OFFICER
Name (ADC) - Organization

9/15/95
Date

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THIS DOCUMENT CONTAINS ONE (1) PAGE(S)
NO. 4 OF 4 COPIES OF THIS a...

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ARMY SERVICE FORCES
UNITED STATES ENGINEER OFFICE
MANHATTAN DISTRICT
OAK RIDGE, TENNESSEE

RHTG # 41, 161
BOX # 26

ABM: lmt

283

1 September 1945

IN REPLY
REFER TO

BIDMT-2
MD 070

DECLASSIFICATION AUTHORIZED
MALCOLM THEISEN, EAS
Name (ADD) - Organization

9-18-95

Date

Captain Robert A. Lavender, USN,
Advisor on Patent Matters,
O.S.R.D.,
1530 P Street N. W.,
Washington, D.C.

Re: S-50

Dear Captain Lavender:

Attached hereto is a report covering the Background and Development of the Liquid Thermal Diffusion Process for separating uranium isotopes, based on a review of information available at this location.

This group has found this report helpful in the preparation of Abstracts and Disclosures which have been submitted on this Project to date and it is possible that the Central Office may find this report of some assistance in conducting searches of the prior art in this field. It would appear that the listing of published art appended to this report is fairly comprehensive in this respect.

It is believed that the development work which resulted in the present commercial plant at S-50 is best divided into three phases: (1) The original concept or low temperature -- low pressure process, (2) The present commercial type plant or high temperature (up to critical) -- high pressure process and (3) A process presently being developed at Philadelphia, it is understood, for operation at super-critical temperatures and extremely high pressure.

Since almost all of the possible inventions attributable to Dr. Phillip H. Abelson have been covered in the three Naval Research Laboratory applications, OSRD-Cases 8-1428, 149 and 150, as set forth in our letter of 10 August 1945, this office has suspended action on the cases discussed in that letter awaiting a decision from your office relative to future policy with regard to the Abelson cases.

Cys 1 - addressee
2 - class. files
3 & 4 - Col. Evans w/d

Very truly yours,

Incl:

Report - S-50 (21 pgs.)
This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws, Title 18, U.S.C., 31 and 32, and its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

SYLVESTER M. EVANS,
Advisor on Patent Matters,
Oak Ridge Patent Group.

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